REMARKS

5   **Claims 1 - 4 are rejected under USC 102(b) as being anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Okazaki et al.**

Applicants have amended independent claim 1 to include the limitations that the compact disc (CD) drive additionally comprises <u>a photoelectric sensor for receiving a reflected laser beam</u>, wherein <u>generating the CE signal of step (b) by calculating an</u>
10   <u>intensity difference between a left region and a right region of the photoelectric sensor.</u> No new matter is entered by these amendments. In particular, support for these amendments is illustrated in the labeling of the areas of the photoelectric sensor 24 of Fig. 1 and found in paragraph [0018] stating, "...the CE signal is the intensity difference between the left half region and the right half region of the photoelectric sensor."
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Applicants assert that currently amended claim 1 is not anticipated by Okazaki et al. because Okazaki et al. teach a vibration detect signal (A + D) – (B + C) that is derived from the difference between an upper area (A + D) and a lower area (B + C) of the photodiodes. It is shown in Figs. 2, 3, and 6A-6C of Osakaki et al., that the photodiodes are
20   labeled such that (A + D) – (B + C) is the intensity difference between an upper region and a lower region of the photodiodes. On the other hand, as stated in paragraph [0018] under the detailed description section with reference to Figs. 2-4, the CE signal (A + D) – (B + C) discloses by the applicants is derived from the intensity difference between a left region (areas A and D) and a
25   right region (areas B and C) of the photoelectric sensor 24 shown in Fig. 1. The vibration detect equation disclosed by Osakaki et al. is not equivalent to applicants' equation, (A+ D) – (B + C), because Osakaki et al. label the photo diodes A-D starting with A

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in the upper left corner then label counter clockwise as shown in Figs. 6A - 6C (US
6,424,606). Applicants' CE signal for vibration detection is based on labeling the areas A-D
of the illuminated face of the photoelectric sensor starting with A in the upper left then
labeling clockwise as shown in Figs. 2-4. Therefore, applicants disclose CE = (A +

5   D) – (B + C), where the CE signal is the intensity difference between a left
region and a right region of the photoelectric sensor, which is substantially
different from the teaching of Osakaki et al. Due to the particular labeling choices,
the two equations are different and merely appear equivalent.

10   Applicants further assert that currently amended claim 1 is not obvious to those skilled in
the art given the teachings of Okazaki et al. at the time the invention was made. In
particular, Osakaki et al. teach that (A+ D) – (B + C) is an intensity difference
between an upper half region and a lower half region of the photoelectric
sensor and repeatedly teach that it is advantageous to subtract the TE signal from (A+ D) –

15   (B + C). Osakaki et al. disclose (column 12, lines 30-33), "...TE advantageously subtracted
from (A + D) – (B + C) resulting in the following equation for the vibration detect signal. (A
+ D) – (B + C) – TE ". The reason that subtracting TE is advantageous is because a difference
between the upper region and the lower reason as stated in column 11, lines 4-10: specifically
that "...(A+D)-(B+C) will not only indicate the position of the objective lens 215, but will

20   also include a portion of the tracking signal. A cleaner signal that represents the vibration of
the objective lens 215 is obtained when the tracking signal from photo diodes E & F is used
to compensate for the change in the amount of light intensity on the photo diodes A to D."
Given (A+ D) – (B + C) and TE as defined by Osakaki et al. and in conjunction with Figs. 6A
- 6C and in view of the teachings by Osakaki et al. that it is advantageous to subtract TE from

25   CE, applicants assert that it would not be obvious to a person skilled in the art to determine if
the optical disc is an unbalanced disc according to the CE signal, where the CE signal is an
intensity difference between a left region and a right region of the photoelectric sensor. In fact,
Osakaki et al. teach against determining an unbalanced disc by calculating an intensity

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difference between a left region and a right region of the photoelectric sensor, because the intensity difference generated in this way would no longer include a portion of the tracking signal (TE).

5   As Osakaki et al. neither anticipates the present invention nor renders the present invention obvious as claimed in currently amended claim 1, applicants assert currently amended claim 1 should be found allowable with respect to Osakaki et al. Consideration of currently amended claim 1 is respectfully requested.

10   **New Claims**

New claims 6, 7, and 8 are entered. No new matter is entered by the new claims 6, 7, and 8 (see references to original specification as filed for each new claim provided below). As new claims 6, 7, and 8 are dependent on claim 1, if currently amended claim 1 is found allowable, claims 6, 7, and 8 should also be found allowable. Additionally, applicants have provided

15   further comments concerning patentability with respect to the teachings of Osakaki et al. for each of the new claims 6, 7, and 8.

Concerning claim 6, see paragraph [0018]. Applicants point out that Osakaki et al. do not teach "...the CE signal is the intensity difference between the left half region and the right

20   half region of the photoelectric sensor." Concerning claim 7, see paragraph [0028]. Applicants point out that Osakaki et al. do not teach "that the CE signal is selected, instead of the TE signal, because the error range of CE signal is much greater than that of TE signal." Concerning claim 8, see paragraph [0018]. Applicants point out that Osakaki et al. do not teach "...if the laser beam approaches the central position of the optical disc 20, the left half
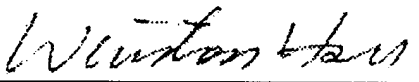
25   region...will receive more reflected laser beam..."

Additionally, new system claims 9-15 are entered. No new matter is entered by the new claims 9-15. As new claims 9-15 are system claims based on claims 1-4 and 6-8, if currently

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amended claim 1 and its dependent claims are found allowable, applicants anticipate system claims 9-15 should also be found allowable.

Consideration of the new dependent claims 6, 7, and 8 and new system claims 9-15 is

5   respectfully requested.

Respectfully submitted,

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